

Application No. 10/771,391
Response dated November 2, 2004
Reply to Office Action of August 10, 2004

AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently amended): A method of manufacturing a semiconductor device comprising,
in the recited order, the steps of:

 forming an insulating film on a surface of a semiconductor element or a circuit
wiring board having electrodes on the surface thereof;

 forming openings in the insulating film by patterning the insulating film and then
removing portions of the insulating film above the electrodes;

 supplying a first metal into the openings;

 heating the first metal to melt and coagulate the first metal;

 supplying a second metal into the openings on the first metal;

 heating the first metal and the second metal to melt and coagulate the first metal
and the second metal; and

 removing the insulating film.

2. (Original): A method of manufacturing a semiconductor device according to claim 1,
wherein the first metal and the second metal are supplied into the openings by an electrolytic
plating method or a vapor-deposition method.

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3. (Original): A method of manufacturing a semiconductor device according to claim 1, wherein the first metal has a characteristic in which a volume thereof is increased when it is heated to be molten and coagulated.

4. (Original): A method of manufacturing a semiconductor device according to claim 3, wherein the first metal contains as a component thereof Bi or an alloy including Bi as a primary component.

5. (Original): A method of manufacturing a semiconductor device according to claim 4, wherein a content of Bi in the first metal is in the range from 20 to 70 wt% of the sum of the first metal and the second metal.

6. (Original): A method of manufacturing a semiconductor device according to claim 1, wherein the second metal contains as a component thereof at least one of Sn, Ag, In, Cu, Zn and Sb.

7. (Original): A method of manufacturing a semiconductor device according to claim 1, wherein the second metal is formed to such a height that it protrudes from the opening.

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8. (Original): A method of manufacturing a semiconductor device according to claim 1,
wherein the insulating film comprises a dry film resist.